



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/741,494	12/19/2003	Aaron Bond	TNT-116US	4113
23122	7590	01/25/2007	EXAMINER	
RATNERPRESTIA			PHAN, HANH	
P O BOX 980			ART UNIT	
VALLEY FORGE, PA 19482-0980			PAPER NUMBER	
			2613	
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	01/25/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

C

Office Action Summary	Application No.	Applicant(s)	
	10/741,494	BOND ET AL.	
	Examiner	Art Unit	
	Hanh Phan	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-6 is/are allowed.
- 6) ☒ Claim(s) 7-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 11/03/2006.
2. Applicant's election without traverse of Group I directed to claims 1-19 in the reply filed on 11/03/2006 is acknowledged.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the feature "**an optical power detector**" specified in the claim 14, the feature "**a temperature insensitive wavelength detector**" specified in the claim 15, and the feature "**a PIN photodiode receiver**" specified in the claim 16 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering

Art Unit: 2613

of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 7, 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Fishman et al (US Patent No. 5,991,060).

Regarding claim 7, referring to Figures 1 and 2, Fishman et al teaches an uncooled long reach optical transmitter, comprising:

an uncooled laser source (i.e., Laser 110, Fig. 1) to produce a laser beam;

an uncooled semiconductor optical amplifier (SOA) (i.e., optical amplifier 120, Fig. 1) optically coupled to the uncooled laser source (i.e., laser 110) to amplify the laser beam; and

an uncooled electroabsorption modulator (EAM)(i.e., EAM 130, Fig. 1) optically coupled to the uncooled SOA (i.e., SOA 120) to modulate the amplified laser beam (i.e., col. 1, lines 49-67, col. 2, lines 1-67 and col. 3, lines 1-54).

Art Unit: 2613

Regarding claims 17 and 18, referring to Figures 1 and 2, Fishman et al teaches a method for substantially maintaining an output power of an uncooled optical transmitter within a predetermined temperature range, the uncooled optical transmitter including a laser (i.e., laser 110, Figs. 1 and 2) and a semiconductor optical amplifier (SOA)(i.e., optical amplifier 120, Figs. 1 and 2), the method comprising the steps of:

setting an initial laser bias current of the laser and an initial SOA bias current of the SOA (i.e., Figs. 1 and 2, col. 1, lines 49-67, col. 2, lines 1-67 and col. 3, lines 1-54);

measuring the output power of the uncooled optical transmitter (i.e., Figs. 1 and 2, col. 1, lines 49-67, col. 2, lines 1-67 and col. 3, lines 1-54); and

adjusting the SOA bias current based on the output power measured to substantially maintain the output power of the uncooled optical transmitter(i.e., Figs. 1 and 2, col. 1, lines 49-67, col. 2, lines 1-67 and col. 3, lines 1-54).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 8-15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fishman et al (US Patent No. 5,991,060) in view of Koren et al (US Patent No. 6,862,136) .

Art Unit: 2613

Regarding claims 8, 10 and 13, Fishman et al teaches all the aspects of the claimed invention except fails to teach an optical isolator. However, Koren et al in US Patent No. 6,862,136 teaches an optical isolator 40 located between a laser source 34 and a semiconductor optical amplifier SOA 51 (i.e., Figures 1 and 4-6, col. 6, lines 54-67 and col. 7, lines 1-48). Based on this teaching, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the optical isolator as taught by Koren et al in the system of Fishman et al. One of ordinary skill in the art would have been motivated to do this since allowing reducing the optical feedback of the laser beam into the laser source.

Regarding claims 9, 11 and 12, the combination of Fishman et al and Koren et al teaches the uncooled laser source and the uncooled SOA are monolithically integrated (i.e., Figs. 1 and 2 of Fishman et al and Figs. 1 and 4-6 of Koren et al).

Regarding claims 14 and 15, the combination of Fishman et al and Koren et al teaches an optical power detector optically coupled to the uncooled EAM to monitor output power of the modulated laser beam (i.e., Figs. 1 and 2 of Fishman et al and Figs. 1 and 4-6 of Koren et al, col. 8, lines 62-67 and col. 9, lines 1-8).

Regarding claim 19, the combination of Fishman et al and Koren et al teaches controlling an EAM bias voltage to substantially maintain a substantially constant dispersion penalty of the uncooled optical transmitter (i.e., Figs. 1 and 2 of Fishman et al and Figs. 1 and 4-6 of Koren et al, col. 8, lines 62-67 and col. 9, lines 1-8).

Art Unit: 2613

8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fishman et al (US Patent No. 5,991,060) in view of Alexander et al (US Patent No. 6,618,176) .

Regarding claim 16, Fishman et al teaches all the aspects of the claimed invention as set forth in the rejection to claim 7 above except fails to teach a PIN photodiode receiver. However, Alexander et al in US Patent No. 6,618,176 teaches a PIN photodiode receiver (i.e., electro-optical converter 31, Fig. 2, col. 5, lines 5-25). Based on this teaching, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the photodiode receiver as taught by Alexander et al in the system of Fishman et al. One of ordinary skill in the art would have been motivated to do this since allowing converting an incident optical signal to an electrical signal.

Allowable Subject Matter

9. Claims 1-6 are allowed.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (571)272-3035.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Art Unit: 2613

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.


HANH PHAN
PRIMARY EXAMINER